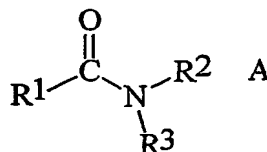


CLAIMS

1. A process for the manufacture of a gas diffusion electrode comprising the steps of
- a) application of a catalyst ink to a gas diffusion substrate;
 - 5 b) firing;
 - c) application of a proton-conducting polymer solution; and
 - d) drying;

characterised in that the proton-conducting polymer solution comprises one or more solvents selected from the group of solvents with structure A



10

wherein R^1 , R^2 and R^3 are independently chosen from H, methyl, ethyl, n-propyl and isopropyl.

2. A process according to claim 1, wherein the proton-conducting polymer solution
- 15 comprises N,N-dimethylacetamide.

3. A process according to claim 1 or claim 2, wherein the catalyst ink comprises an electrocatalyst, a solvent, optionally one or more binders and optionally one or more rheology modifiers.

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4. A process according to claim 3, wherein the electrocatalyst is an unsupported metal catalyst.

5. A process according to claim 3, wherein the electrocatalyst is a supported metal
- 25 catalyst.

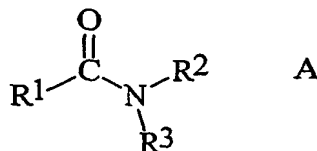
6. A process according to any preceding claim, wherein the catalyst ink comprises a PTFE binder.

7. A process according to any preceding claim, wherein the proton-conducting polymer solution comprises a perfluorinated polymer.

8. A process for the manufacture of a membrane electrode assembly comprising the 5 steps of

- a) application of a catalyst ink to a gas diffusion substrate to form a gas diffusion electrode;
- b) firing the gas diffusion electrode;
- c) application of a proton-conducting polymer solution to the gas diffusion 10 electrode;
- d) optionally drying the gas diffusion electrode; and
- e) combining the gas diffusion electrode with a proton conducting polymer membrane;

characterised in that the proton-conducting polymer solution contains one or more 15 solvents selected from the group of solvents with structure A



wherein R^1 , R^2 and R^3 are independently chosen from H, methyl, ethyl, n-propyl and iso-propyl.

20 9. A process according to claim 8 wherein, the proton-conducting polymer solution comprises N,N-dimethylacetamide.

10. A process according to claim 8 or claim 9, wherein the catalyst ink comprises an electrocatalyst, a solvent, optionally one or more binders and optionally one or more 25 rheology modifiers.

11. A process according to claim 10, wherein the electrocatalyst is an unsupported metal catalyst.

12. A process according to claim 10, wherein the electrocatalyst is a supported metal catalyst.
13. A process according to any one of claims 8 to 12, wherein the catalyst ink
5 comprises a PTFE binder.
14. A process according to any one of claims 8 to 13, wherein the proton-conducting polymer solution comprises a perfluorinated polymer.